



PATENT
Attorney Docket No.: COOL-01302

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:)	Group Art Unit: 3753
Thomas W. Kenny et al.)	Examiner:
Serial No.: 10/698,179)	<u>TRANSMITTAL LETTER</u>
Filed: October 30, 2003)	162 N. Wolfe Road
For: METHOD AND APPARATUS FOR)	Sunnyvale, CA 94086
EFFICIENT VERTICAL FLUID)	(408) 530-9700
DELIVERY FOR COOLING A)	Customer No.: 28960
HEAT PRODUCING DEVICE)	

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313

Sir:

Enclosed please find an Information Disclosure Statement and Form PTO-1449, including copies of the references contained thereon, for filing in the U.S. Patent and Trademark Office.

You will also find enclosed the associated Transmittals, Electronic Information Disclosure Statements, and United States Patent and Trademark Office Acknowledgment Receipts for the electronically filed Information Disclosure Statement (EFS ID #60016); (EFS ID #60017); (EFS ID #60018) and (EFS ID #60019) filed on April 28, 2004.

The Commissioner is hereby authorized to charge any additional fee or credit overpayment to our Deposit Account No. 08-1275. **An originally executed duplicate of this transmittal is enclosed for this purpose.**

Respectfully submitted,
HAVERSTOCK & OWENS LLP

Dated: 4/29/04

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CERTIFICATE OF MAILING (37 CFR § 1.8(a))

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Sir:

The citations listed below, copies attached, may be material to the examination of the above-identified application, and are therefore submitted in compliance with the duty of disclosure defined in 37 C.F.R. §§ 1.56 and 1.97. The Examiner is requested to make these citations of official record in this application.

United States Patents or Published Patent Applications have been filed electronically (EFS ID #60016); (EFS ID #60017); (EFS ID #60018) and (EFS ID #60019). Applicants have become aware of the following printed publication which may be material to the examination of this application:

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This Information Disclosure Statement under 37 C.F.R. §§ 1.56 and 1.97 is not to be construed as a representation that a search has been made, that additional information material to the examination of this application does not exist, or that anyone or more of these citations constitutes prior art.

Respectfully submitted,
HAVERSTOCK & OWENS LLP

Dated: 4-29-03

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OTHER DOCUMENTS (Including Author, Title, Date, Relevant Pages, Place of Publication)					
	EH	George M. Harpole et al., <u>MICRO-CHANNEL HEAT EXCHANGER OPTIMIZATION</u> , 1991, Seventh IEEE SEMI-THERM Symposium, pages 59-63.			
	EI	Pei-Xue Jiang et al., <u>Thermal-hydraulic performance of small scale micro-channel and prous-media heat-exchangers</u> , 2001, International Journal of Heat and Mass Transfer 44 (2001), pages 1039-1051.			
	EJ	X.N. Jiang et al., <u>Laminar Flow Through Microchannels Used for Microscale Cooling Systems</u> , 1997, IEEE/CPMT Electronic Packaging Technology Conference, pages 119-122, Singapore.			
	EK	David Bazeley Tuckerman, <u>Heat-Transfer Microstructures for Integrated Circuits</u> , February 1984, pages ii-xix, pages 1-141.			
	EL	M Esashi, <u>Silicon micromachining for integrated microsystems</u> , 1996, Vacuum/volume 47/numbers 6-8/pages 469-474.			
	EM	T.S. Raviguruajan et al., <u>Effects of Heat Flux on Two-Phase Flow characteristics of Refrigerant Flows in a Micro-Channel Heat Exchanger</u> , HTD-Vol. 329, National Heat Transfer Conference, Volume 7, ASME 1996, pages 167-178.			
	EN	T.S. Raviguruajan et al., <u>Single-Phase Flow Thermal Performance Characteristics of a Parallel Micro-Channel Heat Exchanger</u> , 1996, HTD-Vol. 329, National Heat Transfer Conference, Volume 7, ASME 1996, pages 157-166			
	EO	T.S. Raviguruajan et al., <u>Liquid Flow Characteristics in a Diamond-Pattern Micro-Heat-Exchanger</u> , DSC-Vol. 59 Microelectromechanical Systems (MEMS), ASME 1996, pages 159-166			
	EP	T.S. Raviguruajan, <u>Impact of Channel Geometry on Two-Phase Flow Heat Transfer Characteristics of Refrigerants in Microchannel Heat Exchangers</u> , May 1998, Journal of Heat Transfer, Vol. 120, pages 485-491			
	EQ	J. Pfahler et al., <u>Liquid Transport in Micron and Submicron Channels</u> , March 1990, Sensors and Actuators, A21-A23 (1990), pages 431-434.			
	ER	Kenneth Pettigrew et al., <u>Performance of a MEMS based Micro Capillary Pumped Loop for Chip-Level Temperature Control</u> , 2001, The 14 th IEEE International Conference on Micro Electro Mechanical Systems, pages 427-430.			
	ES	C. Perret et al., <u>Microchannel integrated heat sinks in silicon technology</u> , October 12-15, 1998, The 1998 IEEE Industry Applications Conference, pages 1051-1053.			
	ET	X.F. Peng et al., <u>Convective heat transfer and flow friction for water flow in microchannel structures</u> , 1996, Int. J. Heat Mass Transfer, Vol. 39, No. 12, pages 2599-2608, printed in Great Britain.			
	EU	X.F. Peng et al., <u>Experimental investigation of heat transfer in flat plates with rectangular microchannels</u> , 1994, Int. J. Heat Mass Transfer, Vol. 38, No. 1, pages 127-137, printed in Great Britain.			
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	EW	Yoichi Murakami et al., <u>Parametric Optimization of Multichanneled Heat Sinks for VLSI Chip Cooling</u> , March 2002, IEEE Transaction on Components and Packaging Technologies, Vol. 24, No. 1, pages 2-9.			
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	EY	L.J. Missaggia et al., <u>Microchannel Heat Sinks for Two-Dimensional High-Power-Density Diode Laser Arrays</u> , 1989, IEEE Journal of Quantum Electronics, Vol. 25, No. 9, September 1989, pages 1989-1992.			
	EZ	M.J. Marongiu et al., <u>Enhancement of Multichip Modules (MCMs) Cooling by Incorporating MicroHeatPipes and Other High Thermal Conductivity Materials into Microchannel Heat Sinks</u> , 1998, Electronic Components and Technology Conference, pages 45-50			
	FA	C.R. Friedrich et al., <u>Micro heat exchangers fabricated by diamond machining</u> , January 1994, Precision Engineering, Vol. 16, No. 1, pages 56-59			
	FB	Mali Mahalingam, <u>Thermal Management in Semiconductor Device Packaging</u> , 1985, Proceedings of the IEEE, Vol. 73, No. 9, September 1985, pages 1396-1404.			
	FC	T.M. Adams et al., <u>An experimental investigation of single-phase forced convection in microchannels</u> , 1997, Int. J. Heat Mass Transfer, Vol. 41, Nos. 6-7, pages 851-857, Printed in Great Britain.			
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	FE	Bassam Badran et al., <u>Experimental Results for Low-Temperature Silicon Micromachined Micro Heat Pipe Arrays Using Water and Methanol as Working Fluids</u> , May 31, 1997, Experimental Heat Transfer, 10: pages 253-272.			
	FF	D. Jed Harrison et al., <u>Electroosmotic Pumping Within A Chemical Sensor System Integrated on Silicon</u> , Session C9 Chemical Sensors and Systems for Liquids, June 26, 1991, pages 792-795.			
	FG	Kurt Seller et al., <u>Electroosmotic Pumping and Valveless Control of Fluid Flow within a Manifold of Capillaries on a Glass Chip</u> , 1994, Analytical Chemistry, Vol. 66, No. 20, October 15, 1994, pages 3485-3491.			
	FH	Philip H. Paul et al., <u>Electrokinetic Generation of High Pressures Using Porous Microstructures</u> , 1998, Micro-Total Analysis Systems, pages 49-52.			
	FI	Gh. Mohiuddin Mala et al., <u>Flow characteristics of water through a microchannel between two parallel plates with electrokinetic effects</u> , 1997, Int. J. Heat and Fluid Flow, Vol. 18, No. 5, pages 489-496			
Examiner:			Date Considered:		
EXAMINER: Initial citation considered. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.					

FORM PTO-1449 (Modified)		U.S. Department of Commerce Patent and Trademark Office		Attorney Docket No.: COOL-01302	Serial No.: 10/698,179
INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Use Several Sheets If Necessary) (37 CFR § 1.98(b))				Applicants: Thomas W. Kenny et al.	
				Filing Date: October 30, 2003	Group Art Unit: 3753
OTHER DOCUMENTS (Including Author, Title, Date, Relevant Pages, Place of Publication)					
	FJ	W.E. Morf et al., <u>Partial electroosmotic pumping in complex capillary systems Part 1: Principles and general theoretical approach</u> , October 16, 2000, <i>Sensors and Actuators B 72</i> (2001), pages 266-272.			
	FK	M. Esashi, <u>Silicon micromachining and micromachines</u> , September 1, 1993, <i>Wear</i> , Vol. 168, No. 1-2, (1993), pages 181-187.			
	FL	Stephanus Buttgenbach et al., <u>Microflow devices for miniaturized chemical analysis systems</u> , November 4-5, 1998, <i>SPIE-Chemical Microsensors and Applications</i> , Vol. 3539, pages 51-61.			
	FM	Sarah Arunlanandam et al., <u>Liquid transport in rectangular microchannels by electroosmotic pumping</u> , 2000, <i>Colloids and Surfaces A: Physicochemical and Engineering Aspects</i> Vol. 161 (2000), pages 89-102.			
	FN	Linan Jiang et al., <u>Closed-Loop Electroosmotic Microchannel Cooling System for VLSI Circuits</u> , Mechanical Engineering Dept. Stanford University, pages 1-27.			
	FO	Susan L. R. Barker et al., <u>Fabrication, Derivatization and Applications of Plastic Microfluidic Devices</u> , <i>Proceedings of SPIE</i> , Vol. 4205, November 5-8, 2000, pages 112-118.			
	FP	Timothy E. McKnight et al., <u>Electroosmotically Induced Hydraulic Pumping with Integrated Electrodes on Microfluidic Devices</u> , 2001, <i>Anal. Chem.</i> , Vol. 73, pages 4045-4049.			
	FQ	Chris Boume, <u>Cool Chips plc RECEIVES NANOTECH MANUFACTURING PATENT</u> , July 31, 2002, pages 1-2.			
	FR	Frank Wagner et al., <u>Electroosmotic Flow Control in Micro Channels Produced by Scanning Excimer Laser Ablation</u> , 2000, <i>Proceedings of SPIE</i> Vol. 4088, June 14-16, 2000, pages 337-340.			
	FS	H. A. Goodman, <u>Data Processor Cooling With Connection To Maintain Flow Through Standby Pump</u> , December 1983, <i>IBM Technical Disclosure Bulletin</i> , Vol. 26, No. 7A, page 3325.			
	FT	<u>Electroerosion Micropump</u> , May 1990, <i>IBM Technical Disclosure Bulletin</i> , Vol. 32, No. 12, pages 342-343.			
	FU	Shulin Zeng et al., <u>Fabrication and Characterization of Electrokinetic Micro Pumps</u> , 2000 <i>Inter Society Conference on Thermal Phenomena</i> , pages 31-35.			
	FV	A. Manz et al., <u>Integrated Electroosmotic Pumps and Flow Manifolds for Total Chemical Analysis System</u> , 1991, <i>Inter. Conf. on Solid-State Sensors and Actuators</i> , pages 939-941.			
	FW	G. T. Guenat et al., <u>Partial electroosmotic pumping in complex capillary systems Part: 2 Fabrication and application of a micro total analysis system suited for continuous volumetric nanotitrations</u> , October 16, 2000, <i>Sensors and Actuators B 72</i> (2001) pages 273-282.			
	FX	J. G. Sunderland, <u>Electrokinetic dewatering and thickening. I. Introduction and historical review of electrokinetic applications</u> , September 1987, <i>Journal of Applied Electrochemistry</i> Vol. 17, No. 5, pages 889-898.			
	FY	J. C. Rife et al., <u>Acousto- and electroosmotic microfluidic controllers</u> , 1998, <i>Microfluidic Devices and Systems</i> , Vol. 3515, pages 125-135.			
	FZ	Purnendu K Dasgupta et al., <u>Electroosmosis: A Reliable Fluid Propulsion System for Flow Injection Analysis</u> , 1994, <i>Anal. Chem.</i> , Vol. 66, No. 11, pages 1792-1798.			
	GA	Ray Beach et al., <u>Modular Microchannel Cooled Heatsinks for High Average Power Laser Diode Arrays</u> , April 1992, <i>IEEE Journal of Quantum Electronics</i> , Vol. 28, No. 4, pages 966-976.			
	GB	Roy W. Knight et al., <u>Optimal Thermal Design of Air cooled Forced Convection finned Heat Sinks - Experimental Verification</u> , October 1992, <i>IEEE Transactions on Components, Hybrids, and Manufacturing Technology</i> , Vol. 15, No. 5 pages 754-760.			
	GC	Y. Zhuang et al., <u>Experimental study on local heat transfer with liquid impingement flow in two-dimensional micro-channels</u> , 1997, <i>Int. J. Heat Mass Transfer</i> , Vol. 40, No. 17, pages 4055-4059.			
	GD	D. Yu et al., <u>An Experimental and Theoretical Investigation of Fluid Flow and Heat Transfer in Microtube</u> , 1995, <i>ASME / JSME Thermal Engineering Conference</i> , Vol. 1, pages 523-530.			
	GE	Xiaoqing Yin et al., <u>Micro Heat Exchangers Consisting of Pin Arrays</u> , 1997, <i>Journal of Electronic Packaging</i> March 1997, Vol. 119, pages 51-57.			
	GF	X. Yin et al., <u>Uniform Channel Micro Heat Exchangers</u> , 1997, <i>Journal of Electronic Packaging</i> June 1997, Vol. 119, No. 2, pages 89-94.			
	GG	Chun Yang et al., <u>Modeling forced liquid convection in rectangular microchannels with electrokinetic effect</u> , 1998, <i>International Journal of Heat and Mass Transfer</i> 41 (1998), pages 4229-4249.			
	GH	Arel Weisberg et al., <u>Analysis of microchannels for integrated cooling</u> , 1992, <i>Int. J. Heat Mass Transfer</i> , Vol. 35, No. 10, pages 2465-2473.			
	GI	Roger S. Stanley et al., <u>Two-Phase Flow in Microchannels</u> , 1997, <i>DSE-Vol. 62/HTD-Vol. 354, MEMS</i> , pages 143-152.			
	GJ	B. X. Wang et al., <u>Experimental investigation on liquid forced-convection heat transfer through microchannels</u> , 1994, <i>Int. J. Heat Mass Transfer</i> , Vol. 37 Suppl. 1, pages 73-82.			
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Examiner:			Date Considered:		
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(Modified)U.S. Department of Commerce
Patent and Trademark Office

Attorney Docket No.: COOL-01302

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Applicants: Thomas W. Kenny et al.

(37 CFR § 1.98(b))

Filing Date: October 30, 2003

Group Art Unit: 3753

OTHER DOCUMENTS (Including Author, Title, Date, Relevant Pages, Place of Publication)

GL	Gokturk Tune et al., <u>Heat transfer in rectangular microchannels</u> , 2002, Int. J. Heat Mass Transfer, 45 (2002), pages 765-773.
GM	D. B. Tuckerman et al., <u>High-Performance Heat Sinking for VLSI</u> , 1981, IEEE Electron Device Letters, Vol. EDL-2, No. 5, pages 126-129.
GN	Bengt Sundén et al., <u>An Overview of Fabrication Methods and Fluid Flow and Heat Transfer Characteristics of Micro Channels</u> , pages 3-23.
GO	David S. Shen et al., <u>Micro Heat Spreader Enhance Heat Transfer in MCMs</u> , 1995, IEEE Multi-Chip Module Conference, pages 189-194.
GP	S. Sasaki et al., <u>Optimal Structure for Microgrooved Cooling Fin for High-Power LSI Devices</u> , Electronic Letters, December 4, 1986, Vol 22, No. 25.
GQ	Vijay K. Samalam, <u>Convective Heat Transfer in Microchannels</u> , September 1989, Journal of Electronic Materials, Vol. 18, No. 5, pages 611-617.
GR	Sanjay K. Roy et al., <u>A Very High Heat Flux Microchannel Heat Exchanger for Cooling of Semiconductor Laser Diode Arrays</u> , 1996, IEEE Transactions on components, packaging, and manufacturing technology-part B, Vol. 19, No. 2, pages 444-451.
GS	Charlotte Gillot et al., <u>Integrated Single and Two-Phase Micro Heat Sinks Under IGBT Chips</u> , IEEE Transactions on Components and Packaging Technology, Vol. 22 No. 3, September 1999, pages 384-389.
GT	X.F. Peng et al., "Enhancing the Critical Heat Flux Using Microchanneled Surfaces", Enhanced Heat Transfer, 1998, Vol. 5 pp. 165-176.
GU	H. Krumm "Chip Cooling", IBM Technical Disclosure Bulletin, Vol. 20, No. 7, December 1977, pg. 2728.
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Electronic Version 1.1

Stylesheet Version v1.1.1

Title of Invention	METHOD AND APPARATUS FOR EFFICIENT VERTICAL FLUID DELIVERY FOR COOLING A HEAT PRODUCING DEVICE											
Submission Type:	Information Disclosure Statement											
Application Number:	10/698179	*10/698179*										
EFS ID:	60016											
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ICON1	2504											
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First Named Applicant:	Thomas Kenny											
Attorney Docket Number:												
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TRANSMITTAL

Electronic Version v1.1

Stylesheet Version v1.1.0

Title of Invention	METHOD AND APPARATUS FOR EFFICIENT VERTICAL FLUID DELIVERY FOR COOLING A HEAT PRODUCING DEVICE		
Application Number:	10/698179	*10/698179*	
Date:	2003-10-30		
First Named Applicant:	Thomas W. Kenny		
Confirmation Number:	2504		
Attorney Docket Number:			
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Thomas B. Haverstock		/tbh/	Attorney
Registered Number: 32571			

Documents being submitted	Files
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ELECTRONIC INFORMATION DISCLOSURE STATEMENT

Electronic Version v18

Stylesheet Version v18.0

Title of Invention	METHOD AND APPARATUS FOR EFFICIENT VERTICAL FLUID DELIVERY FOR COOLING A HEAT PRODUCING DEVICE						
Application Number: 10/698179 *10/698179* Confirmation Number: 2504 First Named Applicant: Thomas Kenny Attorney Docket Number: Search string: (3654988 or 3817321 or 3823572 or 3923426 or 3929154 or 4109707 or 4138996 or 4194559 or 4248295 or 4312012 or 4450472 or 4485429 or 4516632 or 4540115 or 4561040 or 4567505 or 4573067 or 4664181 or 4758926 or 4866570 or 4868712 or 4894709 or 4896719 or 4908112 or 4938280 or 5009760 or 5016138 or 5057908 or 5058627 or 5070040 or 5083194 or 5088005 or 5096388 or 5099311 or 5099910 or 5125451 or 5131233 or 5203401 or 5218515 or 5219278 or 5232047 or 5239200 or 5263251 or 5274920 or 5308429 or 5309319 or 5317805 or 5325265 or 5336062 or 5380956).pn.							
US Patent Documents							
Note: Applicant is not required to submit a paper copy of cited US Patent Documents							
Init	Cite.No.	Patent No.	Date	Patentee	Kind	Class	Subclass
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	2	3817321	1974-06-18	von Cube et al.			
	3	3823572	1974-07-16	Cochran, Jr.			
	4	3923426	1975-12-02	Theeuwes			
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	6	4109707	1978-08-29	Wilson et al.			

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Signature

Examiner Name	Date

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Application Number:	10/698179	*10/698179*										
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Attorney Docket Number:												
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Electronic Version v1.1

Stylesheet Version v1.1.0

Title of Invention	METHOD AND APPARATUS FOR EFFICIENT VERTICAL FLUID DELIVERY FOR COOLING A HEAT PRODUCING DEVICE		
Application Number:	10/698179	*10/698179*	
Date:	2003-10-30		
First Named Applicant:	Thomas W. Kenny		
Confirmation Number:	2504		
Attorney Docket Number:			
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Submitted by:		Elec. Sign.	Sign. Capacity
Thomas B. Haverstock		/tbh/	
Registered Number: 32571			Attorney

Documents being submitted	Files
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ELECTRONIC INFORMATION DISCLOSURE STATEMENT

Electronic Version v18

Stylesheet Version v18.0

Title of Invention	METHOD AND APPARATUS FOR EFFICIENT VERTICAL FLUID DELIVERY FOR COOLING A HEAT PRODUCING DEVICE
Application Number:	10/698179
Confirmation Number:	2504
First Named Applicant:	Thomas Kenny
Attorney Docket Number:	
Search string:	(5383340 or 5421943 or 5427174 or 5436793 or 5459099 or 5508234 or 5514832 or 5514906 or 5544696 or 5548605 or 5575929 or 5579828 or 5585069 or 5641400 or 5692558 or 5696405 or 5703536 or 5704416 or 5727618 or 5759014 or 5763951 or 5774779 or 5800690 or 5801442 or 5835345 or 5836750 or 5858188 or 5863708 or 5869004 or 5870823 or 5874795 or 5876655 or 5880017 or 5880524 or 5901037 or 5936192 or 5940270 or 5942093 or 5964092 or 5965001 or 5965813 or 5978220 or 5997713 or 5998240 or 6007309 or 6010316 or 6013164 or 6019882 or 6054034 or 6068752).pn.

US Patent Documents

Note: Applicant is not required to submit a paper copy of cited US Patent Documents

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	1	5383340	1995-01-24	Larson et al.			
	2	5421943	1995-06-06	Tam et al.			
	3	5427174	1995-06-27	Lomolino et al.			
	4	5436793	1995-07-25	Sarwo et al.			
	5	5459099	1995-10-17	Hsu			
	6	5508234	1996-04-16	Dusablon, Sr. et al.			

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10	5548605	1996-08-20	Bennett et al.
11	5575929	1996-11-19	Yu et al.
12	5579828	1996-12-03	Reed et al.
13	5585069	1996-12-17	Zanzucchi et al.
14	5641400	1997-06-24	Kaltenbach et al.
15	5692558	1997-12-02	Hamilton et al.
16	5696405	1997-12-09	Weid
17	5703536	1997-12-30	Davis et al.
18	5704416	1998-01-06	Larson et al.
19	5727618	1998-03-17	Mundinger et al.
20	5759014	1998-06-02	Van Lintel
21	5763951	1998-06-09	Hamilton et al.
22	5774779	1998-06-30	Tchinskys
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24	5801442	1998-09-01	Hamilton et al.
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27	5858188	1999-01-12	Soane et al.
28	5863708	1999-01-26	Zanzucchi et al.
29	5869004	1999-02-09	Parce et al.
30	5870823	1999-02-16	Bezama et al.
31	5874795	1999-02-23	Sakamoto
32	5876655	1999-03-02	Fisher
33	5880017	1999-03-09	Schwiebert et al.
34	5880524	1999-03-09	Xie
35	5901037	1999-05-04	Hamilton et al.
36	5936192	1999-08-10	Tauchi
37	5940270	1999-08-17	Puckett
38	5942093	1999-08-24	Rakestraw et al.
39	5964092	1999-10-12	Tozuka et al.
40	5965001	1999-10-12	Chow et al.
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44	5998240	1999-12-07	Hamilton et al.
45	6007309	1999-12-28	Hartley
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47	6013164	2000-01-11	Paul et al.
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50	6068752	2000-05-30	Dubrow et al.

Signature

Examiner Name	Date

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ACKNOWLEDGEMENT RECEIPT

Electronic Version 1.1

Stylesheet Version v1.1.1

Title of Invention	METHOD AND APPARATUS FOR EFFICIENT VERTICAL FLUID DELIVERY FOR COOLING A HEAT PRODUCING DEVICE										
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Date:	2003-10-30		
First Named Applicant:	Thomas W. Kenny		
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Submitted by:		Elec. Sign.	Sign. Capacity
Thomas B. Haverstock		/tbh/	Attorney
Registered Number: 32571			

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	5	6119729	2000-09-19	Oberholzer et al.			
	6	6126723	2000-10-03	Drost et al.			

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9	6131650	2000-10-17	North et al.	
10	6146103	2000-11-14	Lee et al.	
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12	6159353	2000-12-12	West et al.	
13	6171067	2001-01-09	Parce	B1
14	6174675	2001-01-16	Chow et al.	B1
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34	6396706	2002-05-28	Wohlfarth	B1
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37	6415860	2002-07-09	Kelly et al.	B1
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39	6417060	2002-07-09	Tavkhelidze et al.	B1
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43	6457515	2002-10-01	Vafai et al.	B1
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Signature

Examiner Name	Date

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Stylesheet Version v1.1.1

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Acknowledgement Receipt

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Electronic Version v1.1

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Thomas B. Haverstock		/tbh/	Attorney
Registered Number: 32571			

Documents being submitted	Files
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Comments	

ELECTRONIC INFORMATION DISCLOSURE STATEMENT

Electronic Version v1.8

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Title of Invention	METHOD AND APPARATUS FOR EFFICIENT VERTICAL FLUID DELIVERY FOR COOLING A HEAT PRODUCING DEVICE																																																																																								
<p>Application Number: 10/698179 *10/698179*</p> <p>Confirmation Number: 2504</p> <p>First Named Applicant: Thomas Kenny</p> <p>Attorney Docket Number:</p> <p>Search string: (6632655 or 20010016985 or 20010024820 or 20010044155 or 20010045270 or 20010046703 or 20010055714 or 20020011330 or 20020134543).pn.</p> <p>US Patent Documents</p> <p>Note: Applicant is not required to submit a paper copy of cited US Patent Documents</p> <table border="1"><thead><tr><th>Int</th><th>Cite.No.</th><th>Patent No.</th><th>Date</th><th>Patentee</th><th>Kind</th><th>Class</th><th>Subclass</th></tr></thead><tbody><tr><td></td><td>1</td><td>6632655</td><td>2003-10-14</td><td>Mehta et al.</td><td>B1</td><td></td><td></td></tr></tbody></table> <p>US Published Applications</p> <p>Note: Applicant is not required to submit a paper copy of cited US Published Applications</p> <table border="1"><thead><tr><th>Int</th><th>Cite.No.</th><th>Pub. No.</th><th>Date</th><th>Applicant</th><th>Kind</th><th>Class</th><th>Subclass</th></tr></thead><tbody><tr><td></td><td>1</td><td>20010016985</td><td>2001-08-30</td><td>Insley et al.</td><td>A1</td><td></td><td></td></tr><tr><td></td><td>2</td><td>20010024820</td><td>2001-09-27</td><td>Mastromatteo et al.</td><td>A1</td><td></td><td></td></tr><tr><td></td><td>3</td><td>20010044155</td><td>2001-11-22</td><td>Paul et al.</td><td>A1</td><td></td><td></td></tr><tr><td></td><td>4</td><td>20010045270</td><td>2001-11-29</td><td>Bhatti et al.</td><td>A1</td><td></td><td></td></tr><tr><td></td><td>5</td><td>20010046703</td><td>2001-11-29</td><td>Burns et al.</td><td>A1</td><td></td><td></td></tr><tr><td></td><td>6</td><td>20010055714</td><td>2001-12-27</td><td>Cettour-Rose et al.</td><td>A1</td><td></td><td></td></tr><tr><td></td><td>7</td><td>20020011330</td><td>2002-01-31</td><td>Insley et al.</td><td>A1</td><td></td><td></td></tr><tr><td></td><td>8</td><td>20020134543</td><td>2002-09-26</td><td>Estes et al.</td><td>A1</td><td></td><td></td></tr></tbody></table>		Int	Cite.No.	Patent No.	Date	Patentee	Kind	Class	Subclass		1	6632655	2003-10-14	Mehta et al.	B1			Int	Cite.No.	Pub. No.	Date	Applicant	Kind	Class	Subclass		1	20010016985	2001-08-30	Insley et al.	A1				2	20010024820	2001-09-27	Mastromatteo et al.	A1				3	20010044155	2001-11-22	Paul et al.	A1				4	20010045270	2001-11-29	Bhatti et al.	A1				5	20010046703	2001-11-29	Burns et al.	A1				6	20010055714	2001-12-27	Cettour-Rose et al.	A1				7	20020011330	2002-01-31	Insley et al.	A1				8	20020134543	2002-09-26	Estes et al.	A1		
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